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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|------------------------|---------------------|------------------|
| 10/088,854   | 03/21/2002  | Andrew Austen Mortlock | Z70601-1            | 6749             |
| 28120  | 7590        | 12/02/2004             | EXAMINER            |                  |
| ROPES & GRAY LLP<br>ONE INTERNATIONAL PLACE<br>BOSTON, MA 02110-2624 |             |                        | TRUONG, TAMTHOM NGO |                  |
|  |             |                        | ART UNIT            | PAPER NUMBER     |
|  |             |                        | 1624                |                  |

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/088,854

**Applicant(s)**

MORTLOCK ET AL.

**Examiner**

Tamthom N. Truong

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-16 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

Applicant's amendment of 08-03-04 has been fully considered. Although the amended claims appear to have overcome the previous rejection, the divergent subject matter as represented by formulae I, II, III, and IV necessitates the following "Lack of Unity".

#### *Lack of Unity*

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

**Group 1**, claim(s) 1-4, 9, 10 and 15, drawn to compounds of formula I, IV or IVc wherein R<sup>a</sup> or R<sup>a'</sup> is 3-quinoline, R<sup>1</sup>-R<sup>4</sup> is hydrogen or C<sub>1-5</sub> alkyl, or One of R<sup>1</sup>-R<sup>4</sup> is -X<sup>1</sup>R<sup>14</sup> wherein X<sup>1</sup> is a direct bond, and R<sup>14</sup> is hydrogen or C<sub>1-5</sub>alkyl (i.e., the first group defined for R<sup>14</sup>), Pharmaceutical composition thereof, and method for inhibiting aurora 2 kinase using said compounds.

**Group 2**, claim(s) 1-6, 11, 12, 15 and 16, drawn to compounds of formula I wherein R<sup>a</sup> is sub-formula (i), with R<sup>5</sup> as -Z-(CH<sub>2</sub>)<sub>n</sub>-R<sup>9</sup>; R<sup>1</sup>-R<sup>4</sup> is hydrogen or C<sub>1-5</sub> alkyl, or One of R<sup>1</sup>-R<sup>4</sup> is -X<sup>1</sup>R<sup>14</sup> wherein X<sup>1</sup> is a direct bond, and R<sup>14</sup> is hydrogen or C<sub>1-5</sub>alkyl (i.e., the first group defined for R<sup>14</sup>), or Compounds of formulae II, and IIB; Pharmaceutical composition thereof, and method for inhibiting aurora 2 kinase using said compounds.

**Group 3**, claim(s) 1-4, 9, and 15, drawn to compounds of formula I wherein R<sup>a</sup> is sub-formula (i), with R<sup>5</sup> as halogen;

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$R^1$ - $R^4$  is hydrogen or  $C_{1-5}$  alkyl, or  
One of  $R^1$ - $R^4$  is  $-X^1R^{14}$  wherein  $X^1$  is a direct bond, and  $R^{14}$  is hydrogen or  $C_{1-5}$ alkyl (i.e., the first group defined for  $R^{14}$ ), or  
Compounds of formula IV wherein  $R^a$  is sub-formula (i), and  $R^{5''}$  is halogen;  
Pharmaceutical composition thereof, and method for inhibiting aurora 2 kinase using said compounds.

**Group 4**, claim(s) 1-4, 9, 10, 11 and 15, drawn to compounds of formula I  
wherein  $R^a$  is sub-formula (i), with  $R^5$  as  $NR^{10}R^{10'}$ ;  
 $R^1$ - $R^4$  is hydrogen or  $C_{1-5}$  alkyl, or  
One of  $R^1$ - $R^4$  is  $-X^1R^{14}$  wherein  $X^1$  is a direct bond, and  $R^{14}$  is hydrogen or  $C_{1-5}$ alkyl (i.e., the first group defined for  $R^{14}$ ), or  
Compounds of formula IV or IVB wherein  $R^a$  is sub-formula (i), and  $R^{5''}$  is  $NR^{10}R^{10'}$ ;  
Pharmaceutical composition thereof, and method for inhibiting aurora 2 kinase using said compounds.

**Group 5**, claim(s) 1-4, 7-9, 11 and 15, drawn to compounds of formula I  
wherein  $R^a$  is sub-formula (i), with  $R^5$  as optionally substituted hydrocarbyl;  
 $R^1$ - $R^4$  is hydrogen or  $C_{1-5}$  alkyl, or  
One of  $R^1$ - $R^4$  is  $-X^1R^{14}$  wherein  $X^1$  is a direct bond, and  $R^{14}$  is hydrogen or  $C_{1-5}$ alkyl (i.e., the first group defined for  $R^{14}$ ), or  
Compounds of formula III, wherein  $R^a$  is sub-formula (i), and  $R^{5'}$  is optionally substituted hydrocarbyl; or  
Compounds of formula IIIB;  
Pharmaceutical composition thereof, and method for inhibiting aurora 2 kinase using said compounds.

**Group 6**, claim(s) 1-4, 7, 8, 11 and 15, drawn to compounds of formula I  
wherein  $R^a$  is sub-formula (i), with  $R^5$  as optionally substituted heterocyclyl;  
 $R^1$ - $R^4$  is hydrogen or  $C_{1-5}$  alkyl, or  
One of  $R^1$ - $R^4$  is  $-X^1R^{14}$  wherein  $X^1$  is a direct bond, and  $R^{14}$  is hydrogen or  $C_{1-5}$ alkyl (i.e., the first group defined for  $R^{14}$ ), or  
Compounds of formula III, wherein  $R^a$  is sub-formula (i), and  $R^{5'}$  is optionally substituted heterocyclyl;  
Pharmaceutical composition thereof, and method for inhibiting aurora 2 kinase using said compounds.

**Group 7**, claim(s) 1-4, 7, 8, 11 and 15, drawn to the remaining compounds of formulae I, II, III, IV  
wherein one of  $R^1$ - $R^4$  is  $-X^1R^{14}$ , and  
wherein  $X^1$  is a direct bond, and  $R^{14}$  is anyone of groups 2)-22) as recited in claim 4.

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Pharmaceutical composition thereof, and method for inhibiting aurora 2 kinase using said compounds. Further restriction will be required if this group is elected.

The inventions listed as Groups 1-7 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

a. Compounds of groups 1-7 do not share the same or corresponding special technical feature when  $R^a$  or  $R^{a'}$  varies from halogen to hydrocarbyl to heterocyclyl to  $NR^{10}R^{10'}$ , etc., and when  $R^1$ - $R^4$  vary from hydrogen to  $-X^1R^{14}$ , in which  $R^{14}$  can be selected from anyone of the 22 groups recited in claim 4.

b. Although formulae I, II, III, IV have quinazoline as a core, it is not the special technical feature because it does not define a contribution over the prior art, i.e., it can be anticipated by or obvious in view of the prior art.

c. Under 35 U.S.C. 372(b)(2), "international applications designating but not originating in, the United States...the Commissioner may cause the question of unity of invention to be reexamined under section 121 of this title..." Thus, as discussed above, the instant invention clearly lacks unity according to PCT 13.2.

Accordingly, restriction under 35 U.S.C. 121 and 372 is deemed necessary.

Because of the complexity of the grouping, the restriction is presented in writing.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamthom N. Truong whose telephone number is 571-272-0676. The examiner can normally be reached on M-F (10:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O Wilson can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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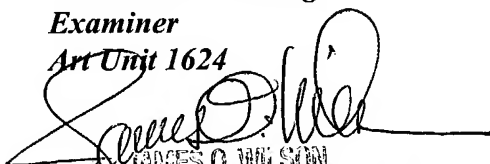
11-15-04



**Tamthom N. Truong**

**Examiner**

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**JAMES O. WILSON**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1600**